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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,611	12/15/2000	Hidefumi Mori	5000-4831	2189

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MORGAN & FINNEGAN, L.L.P.
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EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/738,611

Applicant(s)

MORI ET AL.

Examin r

Julian A. Mercado

Art Unit

1745

— The MAILING DATE of this communication appears n the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☒ Claim(s) 5 and 7-11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Takei et al. (U.S. Pat. 5,958,614)

Regarding independent claim 1 and dependent claims thereto as noted, Takei et al. teaches an air supply system for a fuel cell [14], the air supply system having an air supply chamber [16] and a water supply mechanism [20]. (Figure 2, col. 3 line 58-65) The air supply chamber and water supply mechanism are considered integrated insofar as being directly connected (this interpretation of two mutually attaching components being integrated with each other is notably consistent with applicant's discussion of JP 7-14599, page 2 line 15-26 of the present specification, the compressor and regenerator therein are said to be integrated). The water supply mechanism is specifically disclosed to both seal and cool the air supply chamber. (col. 2 line 14-18, col. 4 line 27-30) The water supply mechanism separates water from the fuel cell exhaust gas via gas-liquid separating apparatus [18], i.e. liquefaction unit. (also applies to dependent claim 3) The air supply system is driven by an electric motor [22], the speed of which

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is not always consistent and thus, the axial rotation of the rotors would resultantly change. (col. 3 line 50-57, applies to dependent claim 2)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takei et al. as applied to claims 1-3 above, in view Katoh et al. (U.S. Pat. 6,124,052)

The teachings of Takei et al. are discussed above.

As to claim 4, Takei et al. does not explicitly teach centrifugal separation type for the liquefaction unit. However, Katoh et al. teaches centrifugal separation types, notably also in conjunction with water-lubricated compressors. (col. 3 line 64 et seq.) Thus, at the time the invention was made, the skilled artisan would have found obvious to employ a centrifugal separation type liquefaction unit. The motivation for such a modification would be to employ the kinetic energy of the exhaust gas from the air supply system into an efficient, effective and well-known means for water separation.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takei et al. as applied to claims 1-3 above, in view of Zimmern (U.S. Pat. 3,850,554)

The teachings of Takei et al. are discussed above.

As to claim 6, Takei et al. does not explicitly teach that the amount of water can be changed by the water supply mechanism. However, the skilled artisan would find obvious to change the water amount to the air supply system in Takei et al. for reasons such as ensuring the constant presence of water in the air supply system, thereby circumventing any damage thereto. (see Zimmern, col. 1 line 23-68)

Allowable Subject Matter

Claims 5 and 7-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record and to the examiner's knowledge do not teach or render obvious at least to the skilled artisan the instant invention regarding a regenerator or regeneration mechanism for both expanding fuel cell exhaust gas and thereby assisting the air supply mechanism, and for supplying expansion-generated water to the air supply mechanism.

Conclusion

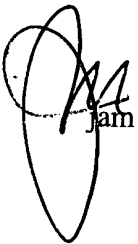
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. 5,434,016 to Benz et al. is cited as an equivalent to JP 7-14599 cited in IDS Paper No. 7.

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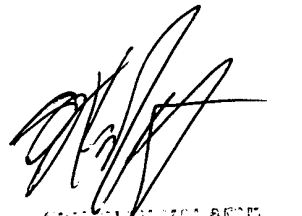
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



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